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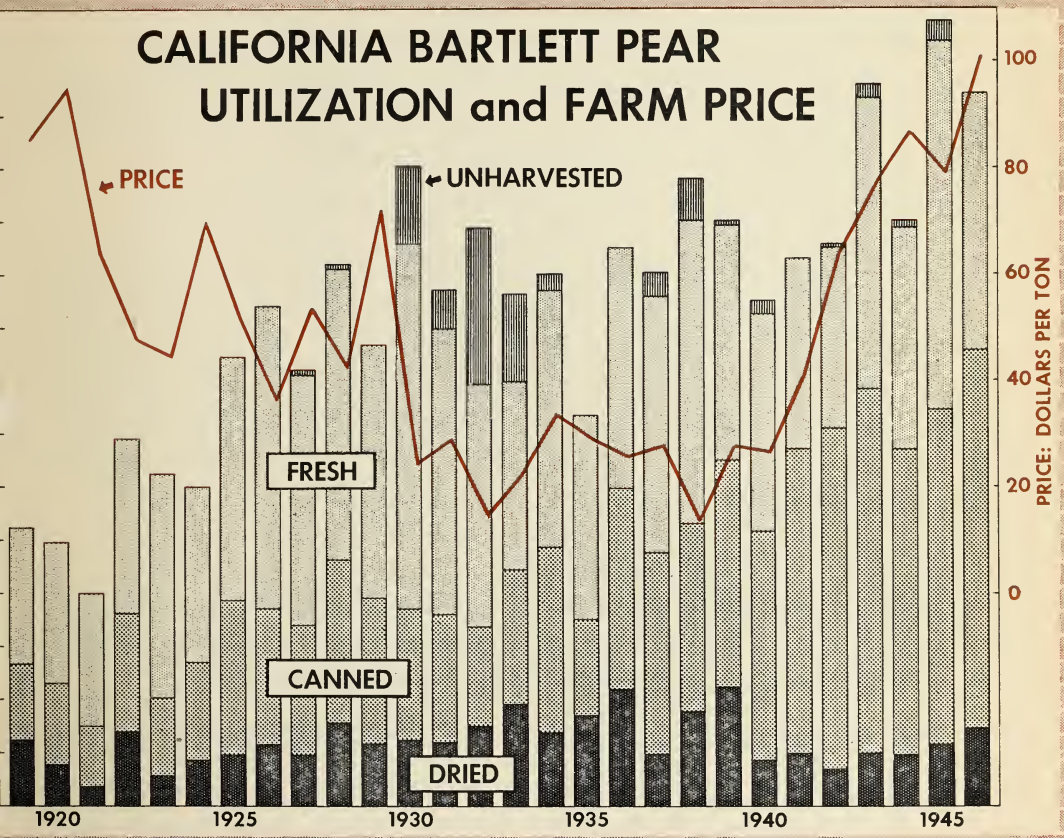
CALIFORNIA BARTLETT PEARS ECONOMIC STATUS, 1946-47

SIDNEY HOOS AND S. W. SHEAR



THE COLLEGE OF AGRICULTURE
UNIVERSITY OF CALIFORNIA · BERKELEY

BARTLETTS

. . . are the most important variety of pear grown on the Pacific Coast, where nearly all of the United States commercial Bartlett crop is produced. California produces about 56 per cent of the Pacific Coast Bartlett crop, Washington, 33 per cent, and Oregon, 11 per cent.

What is the Outlook for California Pear Growers?

Will Bartlett pear production increase in the next few years?

Pacific Coast production may average 10 to 15 per cent more if decreased returns to growers do not cause reduction in yields per acre and in acreage.

Where is the potential increase likely to occur?

Most of the increase would occur in the Northwest because its trees average younger than California's and should, therefore, increase in productive capacity for several years more as they grow older.

Will there be much increase in California's production?

It is not likely that there will be. California Bartlett acreage has about reached its full-bearing capacity, and conditions in recent years were favorable to high yields. High wartime average yields are, therefore, not likely to be exceeded significantly. In fact, the recent high production level can continue only if net returns make it worth while to maintain current acreage and good wartime cultural care, and if weather and pest conditions remain favorable.

Are new plantings advisable?

Extensive new plantings of Bartlett pears do not now appear justified. However, some new plantings on good sites might be desirable to replace older, low-bearing trees and maintain current bearing acreage.

Will California have to meet extensive Northwest competition?

Expanding Northwest production of Bartletts will increase competition with California Bartletts, but more for canning pears than for fresh shipments. Northwest fresh shipments compete directly only with late shipments of California Bartletts.

How much competition may be expected from other varieties?

California Bartletts have met almost no competition from other varieties except from Hardys. Because fresh exports were cut off during the war, most Hardys were canned in cocktail and competed directly with canning Bartletts. Future competition with Bartletts depends largely upon how much of the prewar English market for fresh Hardys is regained.

Will the California Bartlett industry return to the lower level of income received before the war?

Aside from the size of Bartlett pear crops and production of important competing fruits, the chief factors affecting prices and usage of Bartletts during the next few years will be domestic consumer purchasing power and export demand. While national income remains near the high average of 1943–1946, Bartlett prices and the quantity and proportion canned will probably be nearer the high level of those very prosperous years than the lower level of the less prosperous prewar years. However, during the next few years, foreign demand for luxury food products like pears will probably be much less than during 1934–1938, when 30 per cent of California Bartlett production was exported, chiefly to foreign countries. The countries which were our chief prewar export markets for several years will have to use their restricted foreign exchange almost exclusively to rehabilitate their homes and industries.

All facts considered, it seems probable that growers' net returns for Bartlett pears during the next few years may fall considerably below the highly profitable average of the past five years. Production of Bartletts and important competing fruits is expected to average about as high as in recent years. Prices received by growers will probably decline, and at a faster rate than will the present inflated costs of production, marketing, and transportation. Average net returns from Bartletts, therefore, could not continue to be as profitable as those of recent years even if as high a level of national income and consumer purchasing power were maintained in this country, which is unlikely.

The effect of the war on production and prices raises some perplexing questions for the California pear grower. Chiefly, he is anxious to know whether the recent period of wartime prosperity is likely to be followed by a postwar depression such as occurred in the 1920's after World War I.

This report is presented in an attempt to clarify the situation and indicate the outlook for the pear grower, particularly in the Bartlett pear industry. Varieties other than Bartletts are considered to the extent necessary to understand the Bartlett situation. In order to provide a basis for evaluating past developments and the current status, the report includes an examination of trends in production, utilization, and prices. With the statistical trends and other information as a background, the final section presents comments on the general outlook for the California Bartlett pear industry.

Mr. Hoos is Associate Professor of Agricultural Economics, Associate Economist in the Experiment Station, and Associate Economist on the Giannini Foundation for Agricultural Economics.

Mr. Shear is Associate Economist in the Experiment Station and Associate Economist on the Giannini Foundation for Agricultural Economics.

CALIFORNIA BARTLETT PEARS: ECONOMIC STATUS, 1946–47

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PRODUCTION TRENDS

MOST OF THE PEAR TREES in the United States are located on the Pacific Coast, but there are some in New York, Michigan, and around the Great Lakes. Those in the eastern states, although substantial in number, are largely scattered and are generally of noncommercial interest.

From 1930 to 1945, the total number of pear trees (bearing and nonbearing) decreased as follows: the United States, 35 per cent; California, 43 per cent; Washington and Oregon, 19 per cent; outside the Pacific Coast, 35 per cent. Such contraction is typical of practically all producing areas, commercial and noncommercial, and was due to depressed prices in the 1930's, the elimination of a considerable acreage of low-yielding orchards and of trees on the wrong rootstock, and losses from pear blight. The severe blight epidemic in 1930 accounted for the removal of almost 4,000 acres in Sacramento County alone. Many growers also removed blocks of trees which had been propagated on Japanese root and which were beginning to show evidences of the black end disease.

Considering the number of trees not of bearing age distinct from those of bearing age gives a different and more significant picture of how the geographical distribution of pear trees has changed during the 1930–1940 period. Some major features of the change are illustrated by the figures in table 1, which show the percentage changes from 1930 in the number of bearing and nonbearing pear trees.

The number of trees of nonbearing age decreased in all the chief producing states in the country and especially in the Northwest. The decline from 1930 to 1935 was generally greater than from 1935 to 1940.

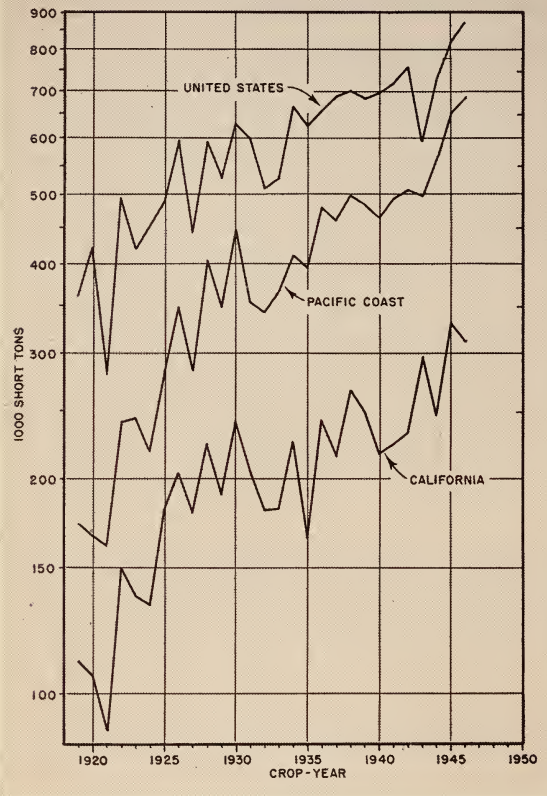
Table 1

GEOGRAPHICAL DISTRIBUTION OF PEAR TREES

	Number of trees			
	Of nonbearing age		Of bearing age	
	1935	1940	1935	1940
	Percentage change from 1930			
Pacific Coast	−57	−80	+ 4	−16
California	−68	−84	− 3	−26
Northwest	−40	−74	+22	+ 6
Washington	−52	−84	+23	+ 5
Oregon	−20	−57	+20	+ 7
Other States	−35	−34	+ 4	−29
United States	−48	−61	+ 4	−23

FIGURE 1

Harvested Production of Pears, United States, Pacific Coast, and California



Production of pears on the Pacific Coast has grown at a faster rate than for the country as a whole, but California production has not increased as rapidly as the rest of the Pacific Coast.

From 1930 to 1935, the number of bearing trees increased slightly in the United States as a whole. It increased substantially in Washington and Oregon, but decreased slightly in California, so that the slight increase (4 per cent) for the Pacific Coast as a whole was equal to that for the entire country. During 1935–1940, however, the trend, except for California, reversed itself. By 1940, California had only about three fourths as many pear trees of bearing age as in 1930. In comparison, Washington and Oregon in 1940 had, as a whole, about 6 per cent more pear trees of bearing age than in 1930.

Pear acreage decreased greatly after 1930 . . . production increased sharply, mainly on the Pacific Coast

Production of All Pears.—Some major trends in pear production are outlined in figure 1, which shows annual production since 1919 for the United States as a whole, the Pacific Coast, and California. There have been wide fluctuations in production from year to year, but the trend has been upward. Although California's production began to increase at a slower

rate as early as 1927–1929, the increase in the Pacific Northwest did not begin to taper off until some five years later. During the past ten years, harvested production of pears increased at about the same rate in all three of the Pacific Coast states—California, Oregon, and Washington.

Bartlett production has grown more rapidly in the Northwest, but California harvests still lead

Production of Pacific Coast Bartletts.—The relative importance of the three Pacific Coast states as producers of Bartletts is evident from the summary in table 2. Since 1925, Bartlett production has increased most rapidly in Washington and next in Oregon. Whereas during 1925–1929 California produced 69 per cent of the Pacific Coast Bartlett pears, by 1940–1944 production had dropped to 56 per cent. Although the percentage increase of production has been less in California than in the other two states, its production has followed a persistent upward trend over the years, and its volume still exceeds that of the other two states combined. However, the Pacific Northwest will probably continue to gain in relative importance as a producer of Bartlett pears because of its relatively large number of nonbearing and young bearing trees which are increasing in productive capacity.

California production has grown greatly since 1942 . . . favorable factors increased yields per acre

California Production of Bartletts.—During the fifteen years 1926–1942, California's annual harvested production of Bartlett pears averaged about 200,000 short tons per crop year. The production harvested since 1942, however, has been at a substantially higher level, with a succession of several years of bountiful crops. This production pattern for California Bartletts has been markedly different from the pattern for other varieties.

Table 2

PACIFIC COAST BARTLETT PEAR PRODUCTION

Crop years	Total	California	Northwest		
			Total	Washington	Oregon
	Short tons				
Averages:					
1919–1924	162,000	111,100	50,900	37,100	13,800
1925–1929	261,900	179,600	82,300	56,900	25,400
1930–1934	315,200	208,800	106,400	79,900	26,500
1935–1939	349,400	202,800	146,600	108,400	38,200
1940–1944	390,900	219,800	171,100	128,400	42,700
Annual:					
1945	496,300	295,000	201,300	145,000	56,300
1946	494,000	268,000	226,000	169,000	57,000

Wartime Influence on Pacific Coast Pear Production.—During the war years, the prewar trends in Pacific Coast pear production did not change much. Although Pacific Coast Bartlett production increased greatly during the war, the prewar trend toward a decline in the proportion of the total crop contributed by California continued. Production continued to expand at a more rapid rate in the Northwest. Consequently, California's relative contribution

Table 3

PACIFIC COAST PRODUCTION OF PEARS OTHER THAN BARTLETTS

Crop years	Total	California	Northwest		
			Total	Washington	Oregon
	Short tons				
Averages:					
1921–1924	44,000	12,000	32,000	14,000	18,000
1925–1929	72,800	16,800	56,000	20,900	35,100
1930–1934	109,300	29,600	79,700	36,200	43,500
1935–1939	140,700	31,200	109,500	52,300	57,200
1940–1944	125,600	27,000	98,600	41,800	56,800
Annual:					
1945	175,000	46,000	129,000	49,000	80,000
1946	193,000	42,000	151,000	58,000	93,000

decreased slightly (from 58 per cent to 56 per cent), being offset by Washington's increase. Oregon produced about the same proportion (11 per cent) of the Pacific Coast's Bartletts as during the prewar years.

California Bartletts have met almost no competition from other varieties except Hardys

Production of Pacific Coast Pears Other than Bartletts.—In contrast with Bartletts, other pears produced in the three Pacific Coast states have not tended to follow a persistent upward trend in production. From 1925 to 1938 there was an increasing trend, but thereafter the trends tended to level out. Oregon, the dominant producer of late fall and winter pears, maintained its level of production better than did Washington or California. These trends are summarized in table 3.

California not only produces fewer late fall and winter pears than the other two Pacific Coast states, but its relative contribution has tended to decline. For example, during 1925–1934, California produced 25 per cent of the Pacific Coast pears other than Bartletts, but in 1935–1944 its proportion declined to 22 per cent. This decline is not large but is an indication of shifts in production.

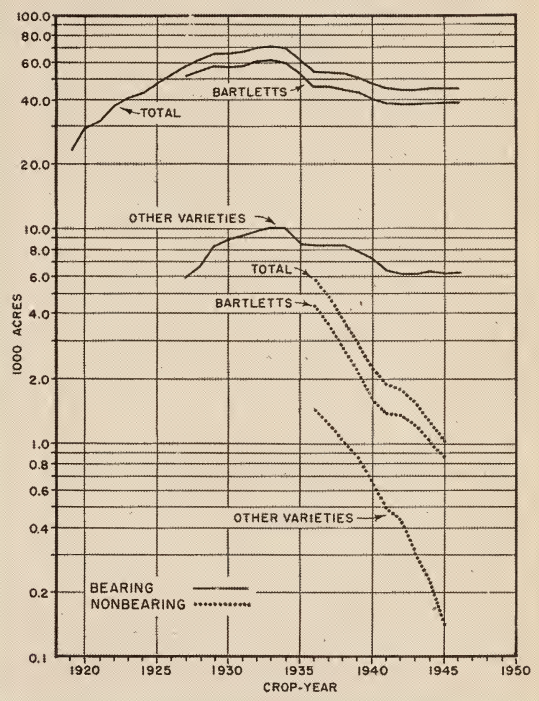
California Production of Pears Other than Bartletts.—California production of pears other than Bartletts has fluctuated relatively more from year to year than has production of Bartletts. These fall and winter pears have been increasing in relative importance in California although they still amount to

only about one sixth of its Bartlett production. Thus, California Bartletts are not only losing in relative importance as compared with Northwest Bartletts, but also are being gained upon by other pears in the state.

Wartime Influence on Production Other than Bartletts.—California's relative position in the production of late pears was about the same during the war period as immediately preceding it, accounting for 21 per cent of the total

FIGURE 2

California Pear Acreage, Bearing and Nonbearing, Bartletts and Other Varieties



California bearing acreage of both Bartletts and other varieties has not changed much since 1941, but nonbearing acreage has decreased greatly.

Coast production during 1940–1944, as compared with 22 per cent during 1935–1939. However, Oregon's contribution increased from 41 per cent in 1935–1939 to 45 in 1940–1944, with a corresponding decrease in Washington.

CALIFORNIA ACREAGE, PLANTINGS, AND YIELDS

Bearing acreage was maintained in recent years . . . plantings were small . . . nonbearing acreage declined

Bearing Acreage.—The rise and decline in California bearing acreage of pears is shown in figure 2, which outlines the trends for both Bartletts and other varieties. Total pear acreage rose sharply after World War I and reached a peak in 1933. The sharp rise was mostly a result of plantings induced largely by the relatively high prices during and after the

first World War. Significant increases occurred in both Bartletts and other varieties, since growers apparently expected the high prices of World War I and the following years to continue. But with the great depression of the early 1930's, and a drastic decline in the market prices of pears, along with the prices of other agricultural commodities, a substantial contraction in pear acreage resulted. This contraction, due to pullings and decreased plantings, continued until 1942, when the acreage began to increase slightly. The patterns of acreage are similar for Bartlett pears and other varieties in their rise, decline, and then slight increase during the past several years.

Table 4

CALIFORNIA PEAR PLANTINGS

Year of report	Bartletts	Hardy	Other varieties	Total
	Acres			
1936	159	36	17	212
1937	269	..*	..*	379
1938	205	40	46	291
1939	92	7	86	185
1940	52	4	4	60
1941	77	2	10	89
1942	273	0	12	285
1943	99	12	3	114
1944	105	3	0	108
1945	76	22	0	98

* Data not at hand for Hardy and other varieties separately.

Nonbearing Acreage.—Data on California nonbearing acreage, Bartletts and other varieties, available for years since 1936, are shown in figure 2. They show a marked decrease in nonbearing acreage. Comparison of the trends in bearing and nonbearing acreage (fig. 2) indicates that increased pear production in later years can result only from: (1) new plantings, (2) increased yields from younger standing acreage as it approaches full-bearing capacity, and (3) increased yields from improved cultural practices and orchard management (see section on yields, p. 11).

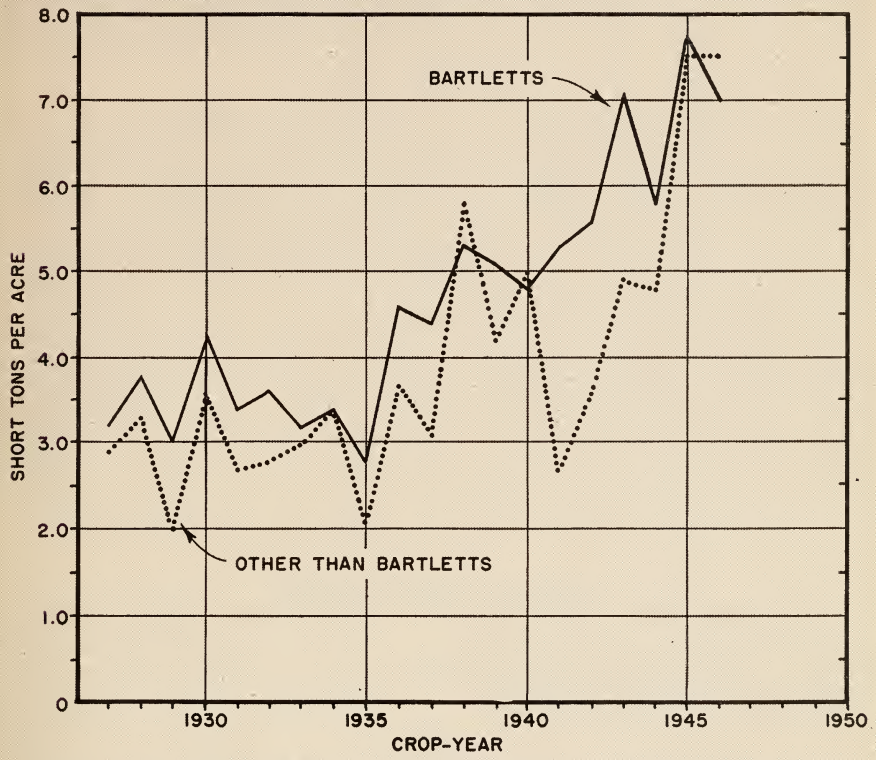
Plantings.—Table 4 shows that new plantings of pears in California have been relatively insignificant during the past ten years. Furthermore, there has been no persistent trend; the acreage newly planted has fluctuated fairly widely from year to year. A low point was reached in 1940, when only 60 acres were planted. Since then, there has been only a slight revival in plantings with no definite trend apparent. The insignificance of newly planted acreage is also emphasized by comparison with the present total acreage (fig. 2).

Wartime Influence on Acreage.—In contrast with declining bearing acreage from 1934 to 1942, during the war period California bearing acreage of pears increased. Although the rise was slight, it was a reversal of the prewar

trend. The very small increase in bearing acreage was primarily due to reduced pulling of old, poor trees because wartime high prices made them temporarily profitable. Nonbearing acreage continued to decrease during the war, but this was a projection of the prewar trend. Total acreage (bearing *plus* nonbearing) continued to decline in the war years, but at a much slower rate

FIGURE 3

Yield per Bearing Acre of California Pears: Bartletts and Other Varieties



Since 1935, the yields per bearing acre of both California Bartletts and other varieties have followed a rising trend, and in 1945 were more than double the yields of ten years earlier.

than previously. These wartime developments in acreage were of a similar character in both Bartlett pears and other varieties. It is clear that as a result of the war, the decline in total acreage was retarded.

Yields.—The preceding figures and comments on trends in acreage and production serve as a basis for considering California yields of pears. The trend in California yield per bearing acre, for both Bartletts and other pears, is shown in figure 3. A marked upward trend in Bartlett yields has occurred, especially since 1935.

This upward trend is the result of numerous factors: several seasons favorable to good crops; improved cultural care and pest and disease control;

elimination of some orchards on poor land and of trees on Japanese rootstock; the almost universal use of hormone sprays, which reduce losses from dropping and hold the fruit on the tree until it reaches its maximum size; the increasing proportion of the crop canned which is held on the trees until it is larger than fruit picked somewhat less mature for fresh shipment; and, probably most important of all, the fact that a larger proportion of the trees are approaching maximum bearing age.

For pear varieties other than Bartletts, the trend in yield follows that of Bartletts except for the years 1941–1944. During that three-year period, the crops of other pears were relatively small, due primarily to unfavorable growing conditions rather than reduced bearing capacity.

Effect of the War on Yields.—California Bartlett yields per bearing acre have been very high in recent years, and since 1943 have exceeded those of any prewar year. This was true even in 1944 when the yield was much less than in 1943 or 1945. Bartlett yields averaged 6.3 short tons during 1941–1945 as compared with 4.8 short tons during 1936–1940—an increase of about 30 per cent. In each of the three years, 1943, 1945, and 1946, they averaged 7 tons or more, reaching a peak of 7.7 tons in 1945.

Yields of California pears other than Bartletts were not outstanding during the war period, and were much more erratic than Bartlett yields. The yield of California fall and winter pears during the prewar years 1936–1940 averaged 4.4 tons as compared with 4.7 tons per bearing acre during 1941–1945. During all of the war years, yields of late pears were much below those of Bartletts. However, in both 1945 and 1946 they were 7.5 tons per bearing acre, as compared with an average of about 7.4 tons for Bartletts for those two years.

UTILIZATION TRENDS

Canned Bartletts have increased greatly . . . the Pacific Coast pack has more than doubled in 25 years

Pacific Coast Utilization.—For a few years after World War I, both fresh shipping and processing of Bartletts on the Pacific Coast increased rapidly, along with total production. After 1925, however, fresh shipments increased very little, while canning rose rapidly, absorbing nearly all the great expansion in production except the relatively small amount utilized for drying—about 10 per cent. The *tonnage* canned rose from about 97,000 a year for 1925–1929 to 152,000 for 1935–1939; the *proportion* canned, from about 37 per cent to nearly 46 per cent (as shown in table 5). The proportion of the Bartlett crop shipped fresh declined. However, the *quantity* fluctuated around a fairly constant average level of about 142,000 tons.

Fresh utilization rose from an average of 144,000 tons in 1935–1939 to 153,000 for 1940–1944, primarily because of a marked increase in total production and in spite of government pressure for canning and reduced fresh exports. The proportion shipped fresh actually declined from 43 per cent for 1935–1939 to 40 per cent for 1940–1944. The tonnage and proportion of the crop dried was lowered, primarily by the great increase in the demand for canned and fresh fruit, and partly by the wartime loss of export outlets.

Hence, both a larger quantity and a larger proportion went into fresh and canning outlets, the increase in canning being the greatest, chiefly because of favorable price ceilings designed to meet the large military needs in 1943 and 1944 and partly because of the loss of European export outlets for the fresh fruit. During 1940–1944 an average of 212,000 tons were utilized for canning, or 55 per cent of the Bartlett crop. In addition, 12,000 tons a year of other varieties were pushed into canning on the Pacific Coast because of wartime loss of European export outlets for the fresh fruit and the big military and civilian demand for canned pears and mixed fruits.

Table 5

UTILIZATION OF PACIFIC COAST BARTLETT PEARS

Crop years	Percentage of production used for		
	Canning	Fresh shipping	Drying
Averages:			
1919–1924	30	59	11
1925–1929	37	54	9
1930–1934	41	49	10
1935–1939	46	43	11
1940–1944	55	40	5
Annual:			
1945	44	50	6
1946	52	44	4

Pacific Coast Canned Bartletts.—A significant picture of trends in the pack and movement of Pacific Coast canned pears is shown in table 6. Straight canned pears are packed almost wholly from Bartletts on the Pacific Coast, and usually constitute about 90 per cent of the total national canned-pear pack.

Table 6 shows the very rapid growth in Pacific Coast canned pears as such, exclusive of the increasingly large quantities that have been canned for salad, cocktail, and other mixed fruits during the past twenty years. The straight canned pack of Bartletts has grown so much more rapidly and steadily in the Northwest than in California primarily because all of the Northwest Bartletts have been canned directly as pears while California has diverted an increasing proportion—over half—of her canned tonnage into fruit cocktail and fruits for salad during the past ten years. The contribution of Oregon and Washington to the straight pack of canned pears has risen from only about 35 per cent of a 2,100,000 case pack on the Pacific Coast in 1922–1924 to over 65 per cent of recent packs averaging nearly 5 million cases. Over 75 per cent of the 1946 pack of about 5,500,000 cases was canned in the Northwest.

A study of the following table shows that before the war, Pacific Coast shipments of canned Bartletts to domestic markets increased relatively more rapidly than exports to foreign countries. During 1922–1924 about 50 per cent was exported as compared with only about 35 per cent during 1934–1938. The drastic reduction in regular exports during the war was more than offset

by the large government requisitions for war services. These took such a large part of the wartime packs that shipments for domestic civilian consumption declined from the prewar record of 4.7 million cases from the 1941 pack to only 1.2 million cases in 1944. Shipments for domestic consumption from the 1945 pack were about 4,200,000 cases, or somewhat less than the peak in 1941.

Table 6

PACIFIC COAST CANNED BARTLETT PACK, SHIPMENTS, AND PRICES*

(Thousands of cases, equivalent twenty-four No. 2½ cans)

	Pack years beginning June 1						
	Averages					Annual	
	1922–1924	1925–1929	1930–1933	1934–1938	1940–1944	1945	1946†
Pack, total	2,088	3,530	3,821	4 700	4,964	4,465	5,524
California	1,377	2,053	1,757	1,918	1,677	1,475	1,324
Northwest	711	1,477	2,064	2,782	3,287	2,990	4,200
Canners' carry-in	200	284	786	904	786	430	240
Available for shipment	2,288	3,814	4,607	5,604	5,750	4,895	5,764
Canners' shipments	2,088	3,350	3,991	4,674	4,930	4,655	.....
To domestic markets	1,037	1,888	2,394	3,089	3,130	4,200	.....
Exports and war services	1,051	1,462	1,597	1,585	1,800	455	.....
Prices							
Canners' f.o.b. (dollars per case)	5.09	4.66	2.87	2.95	4.70	5.50	7.00
Canning to California growers (dollars per ton)	48.00	51.00	19.00	25.00	55.00	73.00	91.00

* California pack and shipments to domestic markets include only the small part of the California pack that is repacked in manufacturing fruit salad and cocktail, as well as the California pears that are canned directly as pears. California pears used directly in the manufacture of fruit salad and cocktail are excluded from figures in the table. The exports and war services data exclude pears used in canned fruit salad and cocktail, but they include lend-lease shipments during 1940–1945. Shipments to domestic markets during 1940–1945 reflect civilian consumption only.

† Data for 1946, except California pack, are preliminary estimates.

Domestic consumption from the 1946 pack will probably be a little smaller, and movement for export and war services slightly larger than for 1945. Per-capita consumption of canned pears increased steadily before the war, averaging nearly three times as much during 1936–1940 as twenty years earlier.

Prices received by California growers for canned pears followed the typical pattern of falling to a depression low during 1930–1933 and then gradually recovering. Encouraged in some war years by ceiling prices favoring the large packs needed for military purposes, the average pack canned during 1940–1944 exceeded that of any previous year. Under ceiling prices on canned pears, California growers received $64.00 a ton for canning fruit in 1943. Favored by an emergency rise in the ceiling price for canned pears, in 1944

canning Bartlett prices to growers rose to $80.00 a ton. In 1945 they averaged $74.00 a ton and in 1946, with no ceiling prices, about $92.00 a ton.

A larger proportion of the Northwest Bartlett crop is used for canning than of the California crop

Comparison of California and Northwest Utilization.—During the past twenty-five years the increase in Bartlett production in Oregon and Washington together has been almost as great as in California, while the rate of increase has been so much more rapid that the proportion of Pacific Coast crop contributed by the Northwest has risen from about 30

Table 7

UTILIZATION OF CALIFORNIA BARTLETT PEARS

Crop years	Percentage of production used for		
	Canning	Fresh shipping	Drying
Averages:			
1919–1924	29	56	15
1925–1929	31	56	13
1930–1934	28	56	16
1935–1939	35	47	18
1940–1944	53	38	9
Annual:			
1945	44	48	9
1946	54	39	7

per cent during 1919–1921 to about 45 per cent for recent years. The Northwest ordinarily dries almost no pears, so its enlarged Bartlett output has practically all been utilized for fresh shipments and canning. Much the greater part of the Bartlett increase in both the Northwest and California has been canned, thereby greatly increasing the direct competition between these two producing areas. Between World Wars I and II, Northwest canning Bartletts rose from 30 per cent of the tonnage canned on the Pacific Coast to 55 per cent (1935–1939), but during 1941–1945 declined to 44 per cent. During 1935–1939, over 60 per cent of the Northwest Bartlett crop was canned as compared with about 35 per cent of the California crop, but during 1941–1945, 55 per cent of the Northwest and 52 per cent of the California Bartlett crop were canned. A majority of the acreage in the Northwest, particularly in Washington, produces a better canning than shipping Bartlett.

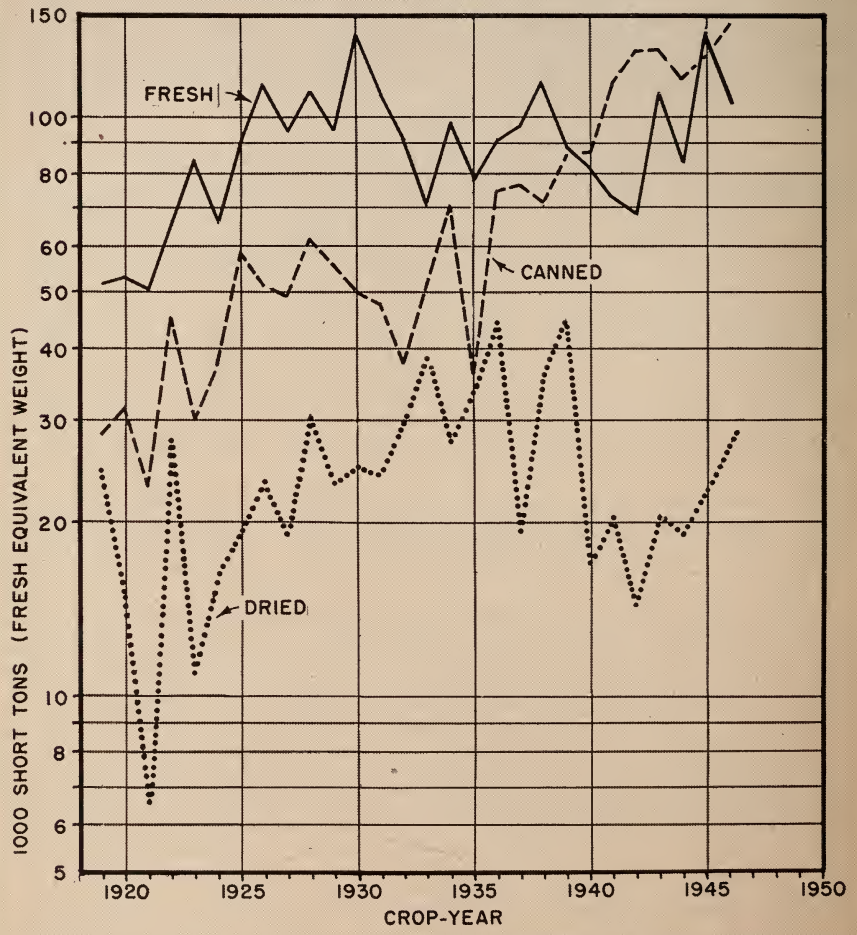
Wartime influence increased canned California Bartletts . . . decreased fresh shipments and amounts dried

California Utilization Trends.—Trends in the proportion of California Bartlett pears utilized for canning, fresh shipping, and drying are summarized in table 7. From 1919 to 1934 the proportion of the California Bartlett pear crop utilized in each of the three outlets did not change much: canned absorbed about 30 per cent, fresh shipments about 55 per cent,

and dried pears the remainder of about 15 per cent (see fig. 4). But the rising demand for canned fruits for salad and cocktail just before the recent war resulted in an increase in tonnage and proportion canned. Drying also took a slightly larger proportion, while fresh use declined in percentage terms. Dur-

FIGURE 4

Utilization of California Bartlett Pears



Since 1935, the volume of California Bartlett pears used fresh has varied around a level trend, the volume canned has increased sharply, and the volume dried has decreased.

ing the recent war, even with a big increase in Bartlett production, the proportion canned increased further, chiefly because price ceilings favored the canning of pears in order to meet the large military requirements. The proportion shipped fresh continued to decline, while the percentage dried decreased markedly and remained low after the war in 1945 and 1946.

Ceiling prices on the 1945 Bartlett crop favored fresh shipping over canning enough so that fresh shipments reached an all-time high. This was partly

responsible for holding down the quantity and proportion of the crop canned even though canners wanted to pack more. In 1946, with no government restrictions on prices or use, the state canned Bartlett pack reached a record and again utilized about the wartime average of over 50 per cent of a large crop.

During the next few years the proportion of California Bartletts canned is likely to continue to be higher than before the war as long as consumer purchasing power remains high enough to support a good demand for canned fruits. Exports of canned pears will probably be considerably smaller than in prewar years, as our former chief export outlet, the United Kingdom, probably will use but little of its restricted foreign exchange to purchase luxury products like canned fruits. Before the war it took a very large majority of our canned pear exports, which absorbed about 32 per cent of the California canned pack during the five years 1934–1938.

Dried Pears.—California produces practically all of this country's dried pears and over 90 per cent of world production. Furthermore, dried pears are made almost entirely from the Bartlett variety. Thus, trends in United States dried pear production and exports indicate not only California trends, but also trends in utilization of Bartletts in drying. The annual tonnage of Bartletts dried, shown in figure 4, followed an upward trend until 1939. The decline in absolute and relative importance of dried pears, since then, as an outlet for harvested production was due only partly to the wartime loss of a major portion of the European export market. Another important factor was the relatively greater increase in the demand for fresh and canning pears, leaving fewer of the low-grade pears for drying. This relative decrease in the demand for dried pears occurred even though government purchases for military and lend-lease purposes replaced the prewar export outlet during the war years.

The beginning of World War II in Europe was immediately reflected by a large drop in the volume of pears dried, since the export market was the dominant outlet, and the demand for canned and fresh Bartletts increased strongly.

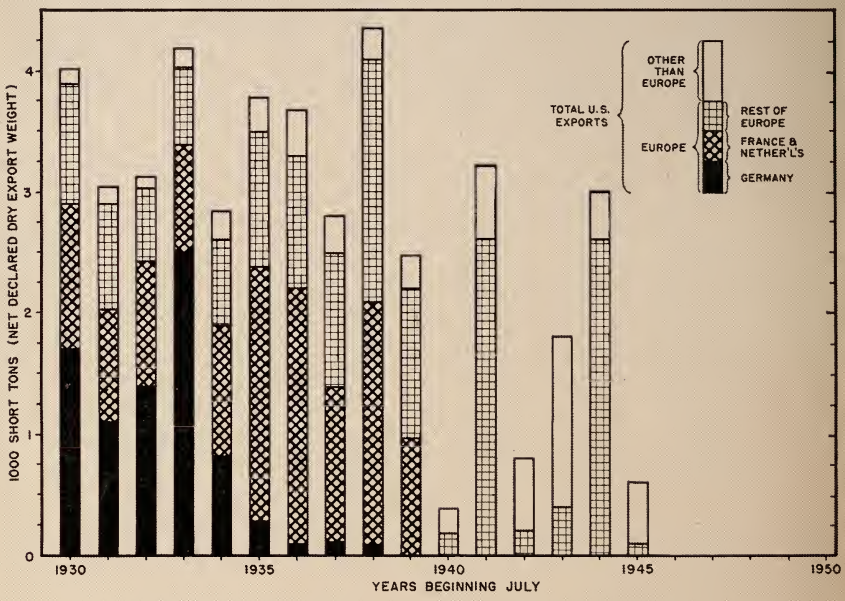
Effect of the War on Dried Utilization.—The dried utilization of California Bartletts became relatively much less important during the war (see fig. 4). In 1940–1944, only 9 per cent of the Bartlett crop was dried, as compared with 18 per cent during 1935–1939. Of the 1945 and 1946 crops, only 8 per cent was dried, showing that the prewar proportion was far from achieved. The decrease in percentage of the crop dried was due not only to loss of export markets (see fig. 5) but also to an increased demand for canned pears and fresh shipments, leaving a smaller residual part of the crop for drying. Still another reason for such reduction is the fact that labor costs in the dried-fruit industry have risen more sharply than have the prices of the product.

Canned Pears.—The marked increase, since 1939, in the proportion of harvested production canned is in large part attributable to the demand of the armed services for canned fruits, as well as the increased demand of the general public for canned pears and particularly for mixed canned fruits. The tonnage and proportion of the Bartlett crop canned in 1945 fell below the wartime average largely because ceiling prices favored fresh shipments. With no ceilings in 1946, a record tonnage of pears was canned.

As shown in figure 4 (p. 16), the volume of California Bartletts utilized in canning has had an irregular but phenomenally large growth since 1919. After attaining (in an erratic manner) a peak in 1928, there was a decline to a low in 1932, followed by a large increase in 1933 and again in 1934, when the maximum up to that time was reached. But 1935 was another low-volume

FIGURE 5

United States Exports of Dried Pears* by Major Areas of Destination



European countries are our major export markets for dried pears.

*Do not include exports of dried pears in dried fruit compote or salad, which in prewar years (1934-38) were about 25 per cent of the total dried pears exported.

year, only to be followed by a sharp recovery in 1936 and additional increases thereafter. During the war years of 1941–1945, record California packs were canned, reflecting in part the demands of the armed forces.

Loss of fresh export outlets during the war resulted in the canning of most Hardys for fruit cocktail

Canning of Fall and Winter Pears.—The wartime loss of European markets for our fresh pears resulted in a marked shift of fall and winter pears into canning, particularly Hardys. Before the war over 99 per cent of Pacific Coast production of pears other than Bartletts were marketed as fresh pears, and about 46 per cent of the fresh shipments of these varieties were exported during 1934–1938, nearly all to Europe. The Hardy variety was most dependent on foreign outlets, about 90 per cent being exported, mostly to the United Kingdom. The small remainder marketed here at home met keen competition from the plentiful supply of the more popular Bartlett.

When the English market was cut off by the war, it was found that some shipping varieties of pears were satisfactory for dicing for canned fruit cocktail. In 1940, therefore, a big increase occurred in California utilization of these pears for canning, particularly the Hardy which lost its fresh outlet in foreign markets almost completely after the English entered the war.

Before World War II, nearly all the pears canned on the Pacific Coast were Bartletts. During 1930–1939 an average of only about 1,000 tons a year of other varieties was canned, or less than 1 per cent of the 135,000 ton annual average Coast pack during that decade. During 1940–1944, however, approximately 12,000 tons a year of other varieties were canned, or slightly over 5 per cent of the 224,000 ton average of all pears canned on the Pacific Coast.

Table 8

CALIFORNIA PEARS OTHER THAN BARTLETTS CANNED, 1939–1945

Varieties	1939	1940	1941	1942	1943	1944	1945
	Percentages						
All	0	32	68	52	43	48	44
Hardy	0	45	99	99	79	83	80
Other	0	16	42	10	3	1	9

Nearly all of this wartime increase in canning of other varieties was in California, and approximately 9,700 tons, or over 80 per cent of the 12,000 ton average, were Hardys. In both 1941 and 1942 about 99 per cent of the California crops of Hardy pears were canned; and during the five years 1940–1944, the amount canned averaged 76 per cent. Most of the Hardys canned since 1939 have gone into fruit cocktail. Small quantities of this and other late shipping varieties have also been used in canned baby food. Much of the Winter Nelis crop from Placerville and Placer County districts was so utilized in 1945.

Table 8 shows the percentage of California pears other than Bartletts canned in recent years.

The extent to which Hardys and other late shipping pears will continue to compete with Bartletts in canning depends largely on how much of the fresh market for these pears (1) is regained abroad and (2) is retained at home.

An increasingly large percentage of California pears has been canned in both fruit cocktail and salad

Increasing Mixed-Fruit Canned Outlet.—During the past twenty-five years, canning of pears in California expanded less rapidly than in the Northwest, and an increasingly large part of the state's canning pears has been packed in mixed fruit—mostly cocktail and for salad. As a result, the straight pack of canned pears in the Northwest has grown so much more rapidly than in California that the proportion of the Pacific Coast straight-pear pack canned in California declined from 70 per cent for 1919–1921, when there was practically no mixed-fruit pack, to an average of only 35 per cent just before the recent war. An average of about 35,000 tons of California

pears was canned in mixed fruits during 1935–1939, or about one half of the state tonnage of pears canned and about 23 per cent of the Pacific Coast total. The canned pack of mixed fruits continued to increase at an even more rapid rate during the recent war, utilizing about 94,000 tons of pears a year during 1941–1945, or nearly 70 per cent of the total quantity of pears canned in the state. In 1946, the peak pack to date of mixed fruits, mostly cocktail, absorbed about 125,000 tons of pears or over 75 per cent of the state tonnage canned.

Consumption of fresh Bartletts has increased . . . proportion used fresh has decreased . . . shipments out of the state have declined

California Fresh Bartlett Shipments.—After World War I, California fresh Bartlett shipments to both interstate and intrastate markets rose at a slightly more rapid rate than production until about 1930. Since then, total fresh shipments have not kept pace with, nor followed the general tendencies of production; the proportion used fresh has averaged much less, largely because interstate shipments, which account for a large majority of the fresh consumption, have been at a much lower level than formerly. In contrast to interstate Bartlett shipments, fresh consumption within California (including Bartletts consumed on farms where grown) since 1930 has continued to follow the general trend of state production to a considerable extent. Consequently, the people of the state, on the average, have eaten a larger proportion of the crop as fresh fruit than formerly. Both increasing population and a high per-capita consumption have contributed to the upward swings and high level of fresh Bartletts consumed in California.

After World I, California fresh Bartlett shipments rose, along with production, to an average for 1926–1931 of about 110,000 tons, of which 86 per cent was shipped out of the state (including exports to foreign countries) and 14 per cent consumed in the state (including the quantities used on farms where grown). Depressed demand and low prices in eastern and foreign markets resulted in a steep decline in interstate shipments to a low in 1935, followed by some recovery. Increased fresh consumption within the state, however, offset only a small part of the decline. Consequently, average shipments fell to 91,000 tons during 1932–1938, or about 50 per cent of the state Bartlett output. Of these shipments, about 18,000 tons were exported to Canada and other foreign markets.

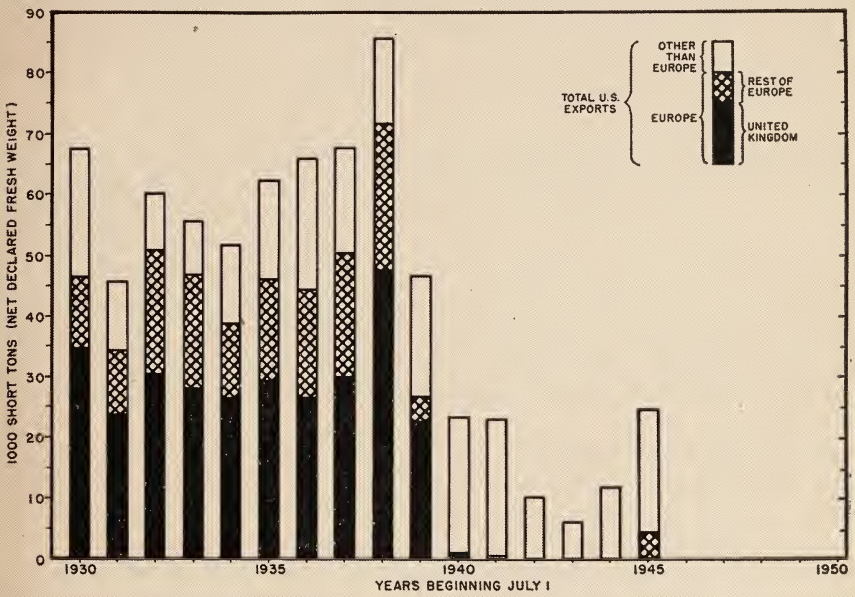
Wartime Influence on Fresh Consumption.—In the utilization of California Bartletts for fresh consumption, there also occurred a shift during the war years. A relatively smaller proportion of the crop was consumed in fresh form : 38 per cent in 1940–1944, in contrast with 47 per cent during 1935–1939 and 56 per cent during 1919–1934. In 1945, there was a return to the immediate prewar distribution, and 48 per cent of the California Bartlett crop was used fresh. In 1946, however, the wartime pattern was closely approximated.

California Interstate Fresh Bartlett Shipments.—Interstate shipments of California fresh Bartletts rose along with production until 1930. For the period 1926–1931, they averaged 94,000 tons, or 50 per cent of the state crop.

During the depression which followed, Bartlett production in the state receded while interstate shipments fell even more, reaching a low in 1935. Production ever since, however, has trended upward. Interstate Bartlett shipments also recovered somewhat, along with production, until 1938. During the whole period of 1932–1938, the interstate movement averaged about 69,000 tons, or 38 per cent of production. About 14,000 tons of these were exported to Canada and western European markets. During 1939–1942, out-of-state shipments

FIGURE 6

United States Exports of Fresh Pears by Major Areas of Destination



The United Kingdom and other European countries have been our major export markets for fresh pears.

fell steeply, averaging only 56,000 tons, or 27 per cent of production. Most of the decrease was in exports to Europe. Under the stimulus of strong domestic wartime consumer demand, shipments to the East again tended to swing upward but were retarded by federal controls in 1943 and 1944 designed to stimulate canning for military needs. With a bumper crop and no restrictions on fresh sales, interstate movement in 1945 was nearly as high as the 1930 peak of 116,000 tons, even though European exports had not been regained. The 107,000 tons shipped from the state in 1945 accounted for 37 per cent of the largest crop to date—295,000 tons. Preliminary estimates indicate that in 1946 about 77,000 tons were shipped fresh out of the state, or about 30 per cent of a Bartlett crop of approximately 265,000 tons.

Intrastate Fresh Bartlett Consumption.—Although fresh consumption within the state has been the least important outlet for California Bartletts, it has increased relatively more than total production or than any other outlet

during the past twenty-five years. From 6 per cent of state Bartlett production in 1919–1925, it rose to an average of between 11 and 12 per cent for the past fifteen years. The quantity consumed in the state rose steeply from about 6,000 tons a year in 1919 and 1920 to about 22,000 tons in 1931. It remained at about this level on an average for over ten years and then made a notable rise to a peak of 31,000 tons in 1945.

Before 1929, the fresh Bartletts consumed in California accounted for about 12 per cent of the state's total fresh Bartlett shipments and since then, an average of over 25 per cent. Most of the increase in consumption within the state before 1940 was the result of a rapid rise in per-capita consumption from an average of 1.8 pounds for 1919–1924 to 3.7 pounds for 1930–1939. During World War II, a decline in the per-capita consumption to an average of about 3.0 pounds was more than offset by the rapid increase in the population of the state resulting largely from wartime industrial expansion.

Wartime Influences on Inter- and Intrastate Shipments.—Wartime influences, chief of which was the loss of European export markets, resulted in a reduction in interstate movement, lowering total shipments for 1939–1942 to an average of about 77,000 tons, or 38 per cent of production. An upward swing in both interstate and intrastate fresh shipments brought the 1943–1946 average to nearly 110,000 tons, or 42 per cent of production. This is the same as the previous peak average tonnage shipped fresh during 1926–1931 which, however, included a significantly larger quantity of exports to European countries than can reasonably be expected during the next few years.

Large quantities of Bartletts were unharvested in the 1930's . . . mainly due to depressed markets

Unharvested Production.—The volume of California Bartlett pears not harvested reached very significant amounts in some prewar years. For example, as much as 59,000 tons were unharvested in 1932. This was almost twice as many tons (fresh weight) as were dried in that year, and 59 per cent more than were canned. Although conditions in 1932 are, of course, an extreme example, other years experienced conditions where relatively large quantities of Bartlett pears were not harvested; for instance, 30,000 tons in 1930, 15,000 tons in 1931, 33,000 tons in 1933, 10,000 tons in 1937, and 16,000 tons in 1938. It is of some importance that even in 1945, which was a year of generally good business conditions, high consumer incomes, and relatively high prices, as many as 8,000 tons were unharvested. This illustrates that conditions other than market prices—for example, available labor, materials, and their costs—may result in supplies produced but not harvested.

Before the war, most fresh and dried pear exports went to Europe, chiefly to the United Kingdom

Exports of Fresh and Dried Pears.—The importance of prewar exports of fresh pears from California is indicated by the fact that during 1934–1938, they averaged about 31,000 tons, or about 26 per cent of the total California fresh-pear shipments. Prewar exports of California fresh Bartletts were approximately 14,000 tons a year, or about 15 per cent of the state's total

fresh shipments of this variety. Europe was, by far, the largest importing area during the same period, taking an average of 24,000 tons a year, or about 20 per cent of California fresh shipments. The rise and decline of total fresh-pear exports from the United States is shown in figure 6 for the period from the crop year 1930–31 to the crop year 1944–45. Previous to World War II, the United Kingdom was the largest export market for fresh pears, accounting for 55 per cent of the United States exports. The loss of the European market, because of the war, resulted in a heavy shrinkage of exports. For example, exports averaged 65,400 tons per year during 1935–1939, as compared with 15,000 short tons per year during 1940–1944.

During the prewar years, 1934–1938, California dried an average of 32,000 tons (fresh weight) of pears annually. Of the quantity exported, 70 per cent went to Europe and the remaining 6 per cent went to other countries. The breakdown of dried-pear exports, by major areas of destination, and certain important features of the dried pear export industry are shown in figure 5 (p. 18). During the prewar years until 1934–35, Germany was the most important single export outlet for dried pears. However, after 1934–35, Germany ceased to be an important export market for our dried fruit, due to many factors, chiefly exchange control and special trade agreements. Fortunately, the decline in the German market was offset by an increase in exports to other European countries, especially to France and the Netherlands.

Because of the great importance of the European market as an outlet for dried pears, the future of the dried-pear industry hinges primarily upon the resumption of international trading and the rôle of dried fruit, as well as fruit in general, in exports. Some pertinent points on this topic will be considered below in connection with a general appraisal of the outlook for California Bartletts during the next several years.

AUCTION PRICES AND ON-TREE RETURNS

Auction prices of fresh Bartletts slumped in the 30's . . . war pushed them much above depression levels

Delivered Auction Prices.—Figure 7 presents weighted-average season auction prices for California and Northwest Bartlett pears, respectively. The two price series followed the same general trend, declining from the post World War I period to depression lows, with some recovery before national defense and World War II activities caused prices to advance sharply. There were, however, some important differences in the behavior of Bartlett prices and of other varieties.

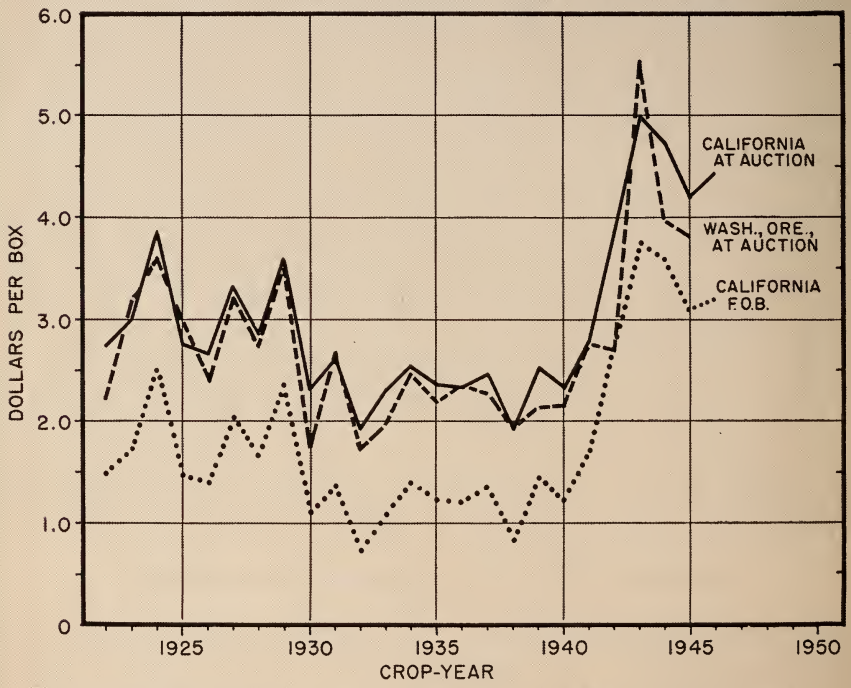
The auction prices of California and Northwest Bartletts moved very closely together, with California Bartletts selling at a premium in most years. During 1922–1929, auction prices of California Bartletts averaged about $3.00 per box, ranging from $2.75 per box for 1922 to $3.60 per box for 1929. Beginning in 1930, there was a succession of years with depressed prices, with a low point of $1.93 per box for 1932. Not until 1942, after this country declared war, did auction prices of California Bartlett pears exceed those of the prosperous 1920's. The 1943 price averaged $4.98 per box, over two and one-half times as much as the 1932 depression low point. The large crops of 1944 and 1945

experienced successively lower prices, but were still much higher than for any year between the two world wars. There were ceiling prices for fresh sales in 1943 and 1944 but not in 1945. In 1946, with no government controls and a large crop, Bartlett auction prices rose to $4.43 per box.

Auction prices of California Bosc and Hardy pears, as shown in figure 8, followed a downward trend from 1922 to 1933. They remained relatively low

FIGURE 7

Prices of California and Northwest Fresh Bartlett Pears*



Prices of California fresh shipping Barletts did not increase sharply until after our country entered World War II.

*Washington and Oregon prices are for New York auction sales. California auction prices are for all auction sales and f.o.b. prices are based on them.

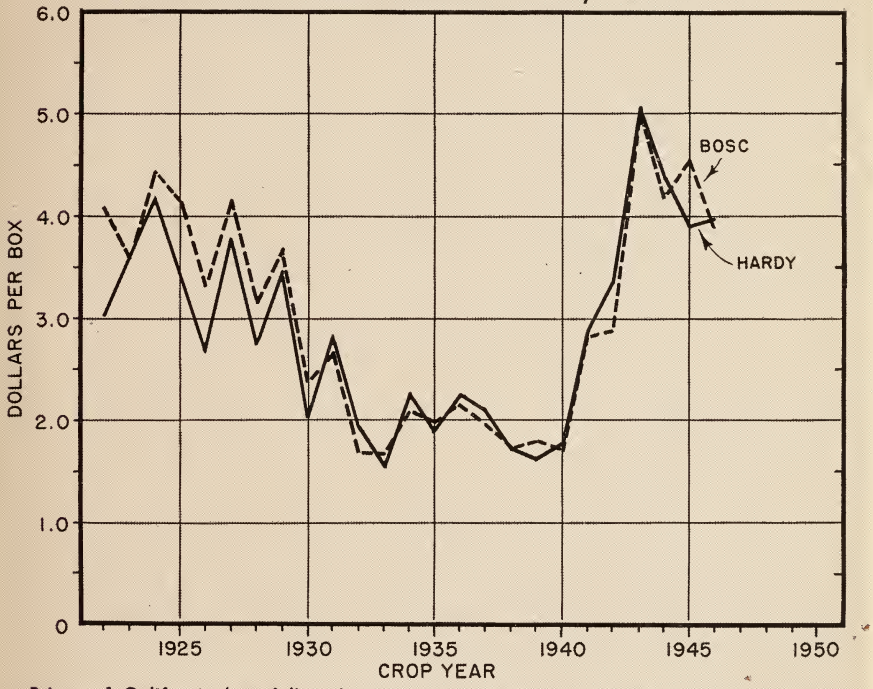
during the 1933–1940 period and then rose sharply along with the prices of all fresh and canning pears during the war. Hardys reached a peak of $5.06 per box in 1943, declined during the next two years; in 1945 they averaged $3.91 per box, which was higher than any of the interwar years except 1923. However, wartime prices of fresh Hardys may not be significant since so few were shipped fresh. The Bosc prices followed closely those of Hardys; a major difference was that Bosc prices averaged higher in 1945 than in 1944.

Auction prices of pears attained a level during the war years which was higher than those prevailing for about a quarter of a century. Recent high price levels resulted more from war conditions than from a fundamental change in consumer habits or in basic characteristics of the pear industry.

Wartime Effects on Auction Prices.—The war years saw delivered auction prices of California pears reach unprecedented high levels. Beginning with the crop year 1942, Bartlett auction prices rose sharply to a peak in 1943, then receded in the following two years. The 1943 peak was partly due to the fact that pear production was abnormally low in that year. The 1945 weighted-average season price, although lower than the two preceding years, was above

FIGURE 8

New York Auction Prices of California Hardy and Bosc Pears



Prices of California late fall and winter pears were at a depressed level from 1930 through 1940.

that of any of the years prior to the war. Hardy and Bosc pears followed the same general pattern. California Bartlett equivalent f.o.b. prices (auction less transportation and commission charges) also rose to unprecedented heights during the war period. Auction prices probably would have reached even higher levels during some war years if there had been no price ceilings.

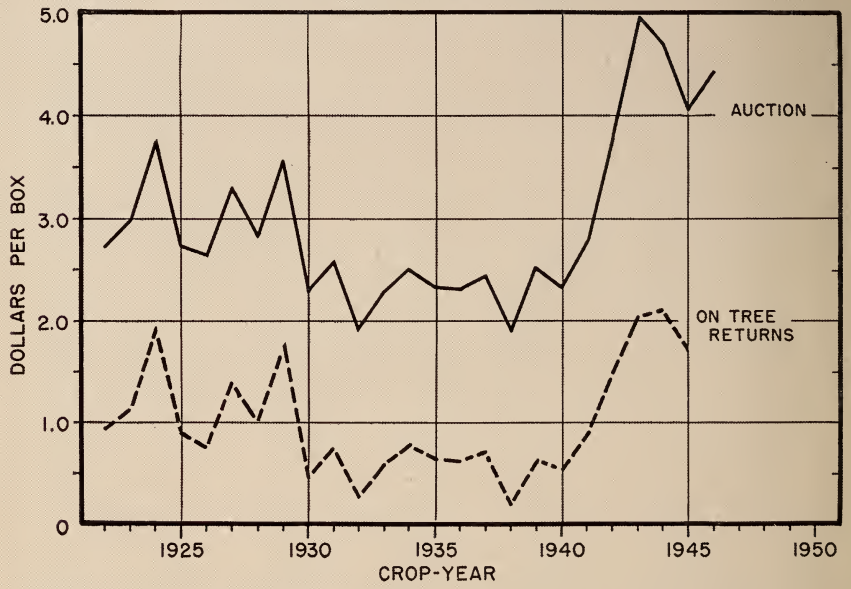
On-tree returns followed general trend of auction prices through depression slump to wartime boom

On-tree Returns to Growers.—Although auction prices are a useful indicator of the general level of wholesale prices of California fresh pears in eastern markets, they should not be confused with returns to California growers. Commission charges, transportation costs, packing, picking, and hauling costs, along with other marketing charges, must be met. More

valid and representative measures of returns to growers (but not measures of *net* returns) for fresh California Bartletts and Hardys are the derived series called "equivalent on-tree returns to growers" pictured in figures 9 and 10 for crop years 1922–1945. For comparison, the delivered auction prices are also shown in those figures. It should be noted that the on-tree returns are not only at the orchard level but are also for all fresh shipments both within and out of

FIGURE 9

Auction Prices and On-tree Returns for California Bartlett Pears Marketed Fresh*



Highest season auction price for California fresh Bartlett shipments occurred in 1943, and then declined from the wartime peak. Highest on-tree returns occurred in 1944.

*The auction prices are for all auction markets, and the on-tree returns reflect all fresh sales in both out-of-state and in-state markets.

the state. Auction prices, in contrast, are at the delivered wholesale level and are only for those fresh shipments actually sold in eastern auction markets.

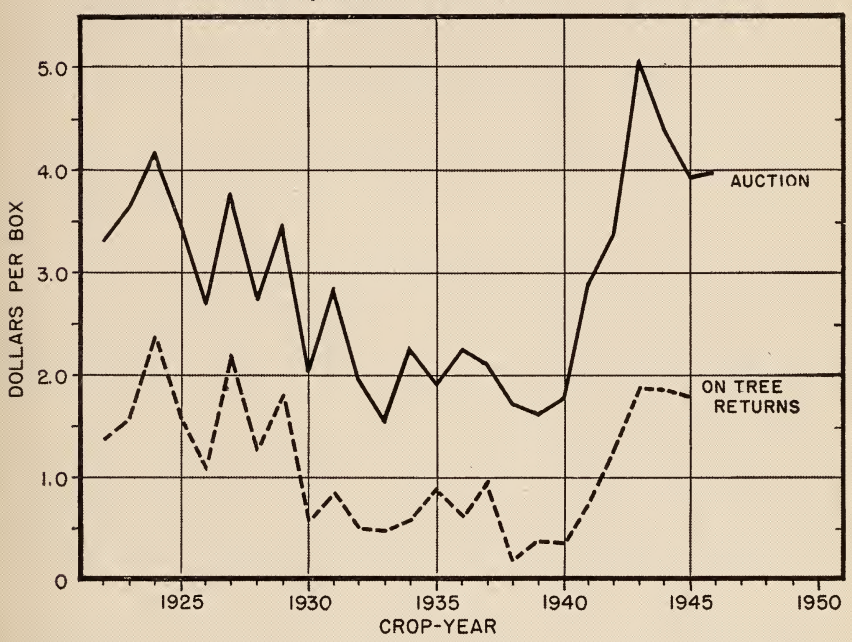
The general movements of auction prices and on-tree returns are broadly similar even though the on-tree returns for all fresh shipments reflect not only eastern auction sales and other out-of-state sales but also the large quantity taken by in-state markets. The spread between auction prices and equivalent on-tree returns for fruit sold at auction represents harvesting and marketing charges. For Bartletts used in fresh consumption, these charges were relatively stable during 1922–1931, dropped slightly in 1932–1936, then increased during 1937–1940; thereafter they rose substantially.

Wartime Effects on On-Tree Returns.—Large wartime increases in auction prices should not be confused with a closer measure of returns to farmers.

On-tree returns for California Bartlett pears were at a depressed level during 1930–1940. Beginning with 1941, they began to increase and reached a peak in 1944. It is of importance that Bartlett on-tree returns during the war years did not rise as sharply or as much as auction prices. This is reflected by the fact that the auction on-tree spread, which includes harvesting and marketing costs, increased during the war. But with consideration given to such costs,

FIGURE 10

Auction Prices and On-tree Returns for California Hardy Pears Marketed Fresh*



Highest season auction price for California Hardy pears occurred in 1943, and then declined from the wartime peak. Highest on-tree returns also occurred in 1943.

*The auction prices are for New York auction sales, and the on-tree returns reflect all fresh sales in both out-of-state and in-state markets.

California Bartlett pear growers were in a more favorable position (in terms of on-tree returns) during the war period than at any previous time since 1924.

On-tree returns to growers of Hardy pears also improved during the war, as compared with the immediately preceding years, but they did not improve relatively as much as Bartletts. In fact, the level attained by on-tree returns to growers of Hardy pears approximated the level prevailing during 1922–1929. Thus, Hardys regained their predepression status but did not exceed it as did Bartletts.

THE OUTLOOK

General Outlook

Bartlett pears are a good-time crop . . . a high consumer income is reflected in present high prices

At the outset it is important to appreciate that the general outlook for California Bartlett pears will be determined largely by the level of consumer income and general business conditions in the country. This is especially true for the major swings, over a period of several years, in prices and returns to growers. Other factors, such as the relative volume of competing fruits (canned and fresh) including fresh peaches and plums as well as Northwest Bartletts shipped during the California Bartlett shipping season, influence prices of and returns to California Bartlett growers, with the effect varying from year to year.

Figure 11 (p. 30) illustrates the similarity in general movement of United States nonagricultural income and of the farm value or total returns to growers of California pears. In the figure, the period 1935–1939 is considered as the base period so that the current situation may be contrasted with the immediate prewar and previous situations. It may be noted that from 1919 to 1929 pear growers' returns generally increased along with the index of nonagricultural income. Both series declined thereafter and reached a low during the 1932–1933 depression years, the farm value of California pears dropping relatively more than United States nonagricultural income. After the depression trough, although returns to growers fluctuated from year to year, they followed fairly closely the recovery in nonagricultural income and, during the war years, rose to unprecedented heights. Analyses and historical evidence suggest that farm value or total returns per ton to growers of California pears (including cultural, picking, and harvesting costs) will probably continue to follow, in a general way, the trend of national income.

On-Tree Returns.—An alternative and more basic view of the outlook for California Bartlett pears from the standpoint of growers pertains to equivalent on-tree returns per ton. Figure 12 compares the on-tree returns to growers for California Bartlett pears (used in fresh consumption) with fruit prices, as a whole, received by United States farmers, and with prices paid by United States farmers, including interest, taxes, and wages to hired labor. Although the latter two series pertain to the United States as a whole rather than to California only, the relations are indicative of the situation in California.

Figure 12 shows that per-ton on-tree returns to California growers of Bartlett pears in recent years increased more, in relation to the 1935–1939 prewar period, than did fruit prices received by United States farmers in general. Although prices paid by farmers, including interest, taxes, and wages to hired labor, have increased substantially over the prewar level, they did not increase relatively as much as the equivalent on-tree returns to growers. The indications are reasonably clear that California growers of Bartlett pears generally have attained a more profitable position than they held in the immediate prewar years.

Production

There may be some increase in Pacific Coast Bartlett production, but mainly in the Northwest

If a decrease in growers' net returns does not cause reduction in acreage, and if yields are maintained during the next few years, Pacific Coast Bartlett production might average 10 to 15 per cent higher. Most of this potential increase would occur in Oregon and Washington, as their trees on the average are younger than California's and hence should increase in productive capacity for several years as they grow older. California Bartlett acreage has about reached its potential full-bearing capacity, so that its high wartime yields are unlikely to increase significantly. The state's recent high production level can therefore be maintained only if weather and pest conditions remain favorable and net returns stay high enough to maintain wartime cultural care. Such tentative conclusions, it is emphasized, assume that extensive new plantings will not be undertaken; if they are, the above conclusions will not be valid and production eventually will increase substantially and have a corresponding depressing effect on prices.

Utilization and Outlets

Prosperity and depression affect canned usage more than fresh . . . dried use depends on foreign demand

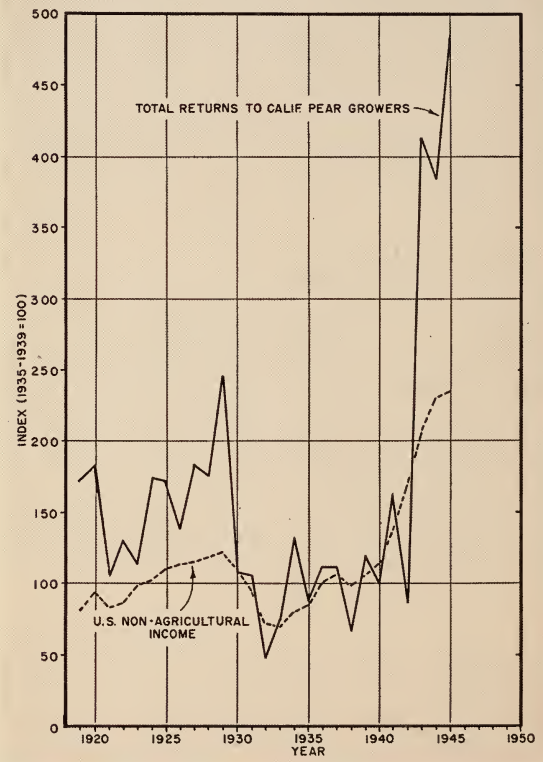
Canned Bartletts.—As previously noted, ceiling prices on the 1945 crop of Bartletts favored fresh shipping over canning. However, the proportion canned still exceeded substantially the prewar pattern. The proportion used fresh in 1945 regained its prewar 1935–1939 average; but the percentage dried remained at its war-period level. Although the utilization of the 1946 crop returned nearer the wartime pattern, continued canning of such large tonnages of pears may reasonably be expected only if consumer incomes remain near the level of recent years.

Dried Pears.—Present indications are that the exports of dried pears may approach their prewar level sooner than exports of fresh or canned but it is unlikely that the proportion dried will average more than the 18 per cent level of 1935–1939. European countries, especially the United Kingdom—the dominant prewar importer—may be expected to conserve their foreign exchange and purchasing power for commodities considered more essential than fresh and canned fruits. Dried fruits will likely be preferred by foreign importers because of their relatively high food value per unit of weight and price, as compared with fresh and canned ones. The volume of dried pear exports during the next several years, however, cannot be accurately predicted. Not only do foreign consumers presently lack adequate purchasing power—a situation which may continue for several years—but the allocation of available exchange and its expenditure on specific items is subject to obtaining import licenses in Great Britain, as well as in other countries which were our leading fruit customers.

Canned Hardys.—The war years saw the utilization of late fall and winter pears, especially the Hardy variety, primarily in canning of fruit salad and cocktail. Since it is now evident that Hardy pears can be successfully canned, it is likely that in the future some will be so utilized, competing, as during the war years, directly with canning Bartletts. Bartletts, however, will make

FIGURE 11

Total Returns (Farm Value) to California Pear Growers and United States Nonagricultural Income (Index Numbers: 1935-39=100)



Compared with the situation in 1935-1939, the farm value of California pears rose much higher during the war years than did United States nonagricultural income.

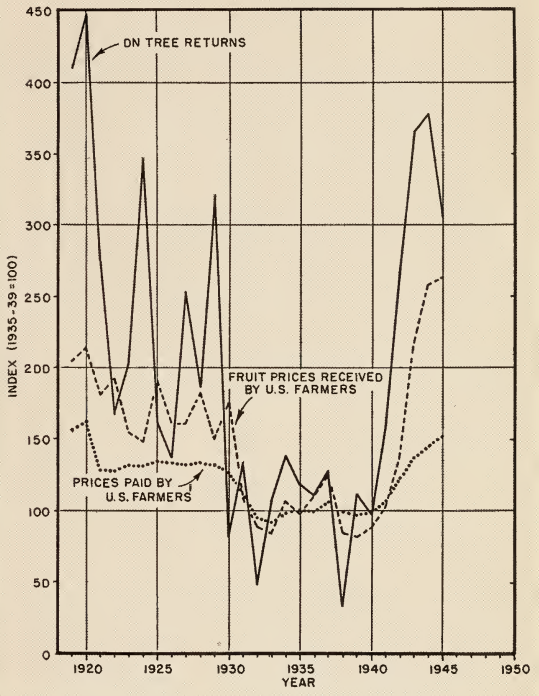
up the major proportion of pears canned in the state. The relative volume of Hardys so utilized will depend upon alternative outlets and prices. As long as fresh-pear exports remain at a low level, there will be pressure for Hardys to be canned, since a large majority of these pears were exported to the United Kingdom during prewar years.

Fresh Bartletts.—The outlook for California Bartlett pears utilized in fresh consumption may be considered from two viewpoints: those used fresh within the state and those shipped fresh out of state to export markets and eastern states. The volume used fresh within the state may be expected to keep pace with the state's growth in population. The volume shipped fresh out of the state has tended to follow the general level of consumer income and

business conditions in the country, indicating that during relatively prosperous periods consumers in other states tend to absorb more California fresh Bartletts than in depressed business years. Increased competition between late California and Northwest fresh Bartlett shipments to eastern markets appears to have developed in recent years. Analysis indicates that the volume of North-

FIGURE 12

On-tree Returns for California Bartletts, Fruit Prices Received and Prices Paid by U.S. Farmers* (Index Numbers: 1935-39=100)



*On-tree returns are for Bartletts used in fresh consumption. Prices paid by United States farmers include prices paid for living, production, interest, taxes, and wages to hired labor. The on-tree returns are equivalent on-tree prices, per ton, to California farmers for Bartletts consumed fresh. Since the indexes of prices paid and fruit prices received by United States farmers reflect conditions over the country as a whole rather than California only, such indexes indicate only roughly the conditions faced by California farmers.

west Bartletts shipped east during the California Bartlett fresh shipping season affects the prices received for California Bartletts. Such an influence is of importance to California Bartlett growers and shippers since the production of Bartletts in the Northwest, especially Washington, is increasing considerably.

Prices and Returns

Consumer purchasing power largely determines the demand and profit outlook for California Bartlett pears

Analysis shows that the level of consumer income is one of the dominant factors affecting the season average auction prices of California fresh Bartletts as well as packers' f.o.b. prices of canned pears. Thus, the future course of prices for Bartletts used in fresh consumption and in canning depends largely on future business conditions in the country as a

whole and the resulting income available to consumers for allocation among all goods they desire and are able to purchase. As mentioned previously, supplies of Northwest Bartletts shipped east affect the prices received for California Bartletts. Also, increasing quantities of pears are being canned in the Northwest. In addition, supplies of fresh and canned plums, peaches, and other canned fruits affect pear prices. It is significant that several important forces influencing Bartlett prices are largely beyond the control of California producers. In fact, the only major price influences over which they can exercise some control are the volume, quality, size distribution, and timing of shipments and sales. These partially controllable influences, in combination, have had less effect on prices than have the influences mentioned above, which are beyond the control of growers and shippers.

During the war years the on-tree returns to growers for California Bartlett pears were very favorable as compared with the previous ten years, and indications are that net returns also were favorable. One may question what basic factors influencing price are different now from those of the prewar period. Consumer money incomes and the general price level of all goods and agricultural products have risen sharply, but prices paid by farmers have also risen, although to a relatively lesser extent. It is impossible to state with certainty what the future course of prices and returns to Bartlett growers will be. However, it may be expected that they will continue to follow closely the general level of business activity and of fruit prices. In addition, it is not unreasonable to expect that the spread between prices received by growers of Bartletts and their costs of production and harvesting will narrow and return nearer to the relations existing before the war. Whether the on-tree and net returns remain favorable or tend to the depressed level experienced during the 1930's depends, it appears, chiefly on whether the country's business activity and consumer income remain high or fall to a depression level.

NOTE

Mimeographed copies of the detailed tables upon which this study is based can be obtained by writing to the Giannini Foundation of Agricultural Economics. The sources of the data used are various federal, state, and private agencies, and these are set forth in the mimeographed statistical supplement.

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